

# Bureau of Nuclear Engineering

## Nuclear Emergency Preparedness Section



### Annual Update

January 1, 2003 - December 31, 2003

<http://www.nj.gov/dep/rpp/nep>

**State of New Jersey**  
**Department of Environmental Protection**  
**Division of Environmental Safety and Health**

**BUREAU OF NUCLEAR ENGINEERING**  
**NUCLEAR EMERGENCY PREPAREDNESS SECTION**

**ANNUAL UPDATE**  
**January 1, 2003 - December 31, 2003**

**James E. McGreevey, Governor**  
**Bradley M. Campbell, Commissioner**

March 2004

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## **LIST OF ACRONYMS**

AI	Artificial Island
ANI	American Nuclear Insurers
ARCA	Area Requiring Corrective Action
BCSS	Bureau of Communications and Support Services
BER	Bureau of Environmental Radiation
BNE	Bureau of Nuclear Engineering
BRH	Bureau of Radiological Health
CRCPD	Conference of Radiation Control Program Directors
DEMA	Delaware Emergency Management Agency
DEP	Department of Environmental Protection
DOE	US Department of Energy
EAL	Emergency Action Level
ECG	Event Classification Guides
ENC	Emergency News Center
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPA	Environmental Protection Agency
EPZ	Emergency Planning Zone
FCP	Forward Command Post
FDA	Food and Drug Administration

### **LIST OF ACRONYMS (continued)**

FEMA	Federal Emergency Management Agency
FMT	Field Monitoring Team
FRMAC	Federal Radiological Monitoring Assessment Center
GE	General Emergency
IPZ	Ingestion Pathway Zone
JIC	Joint Information Center
MWe	Megawatts (electric)
MWt	Megawatts (thermal)
NEPS	Nuclear Emergency Preparedness Section
NESP	Nuclear Emergency Standard Procedure
NGS	Nuclear Generating Station
NRC	Nuclear Regulatory Commission
NUMARC	Nuclear Management Resource Council
OCNGS	Oyster Creek Nuclear Generating Station
PSEG	Public Service Enterprise Group
RASCAL	Radiological Assessment System for Consequence Analysis
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
SAE	Site Area Emergency
SERF	Standard Exercise Report Format
SPOEM	State Police Office of Emergency Management
TAC	Technical Assessment Center
UE	Unusual Event
USDA	United States Department of Agriculture

## **1.0 INTRODUCTION**

### **1.1 The Nuclear Emergency Preparedness Section**

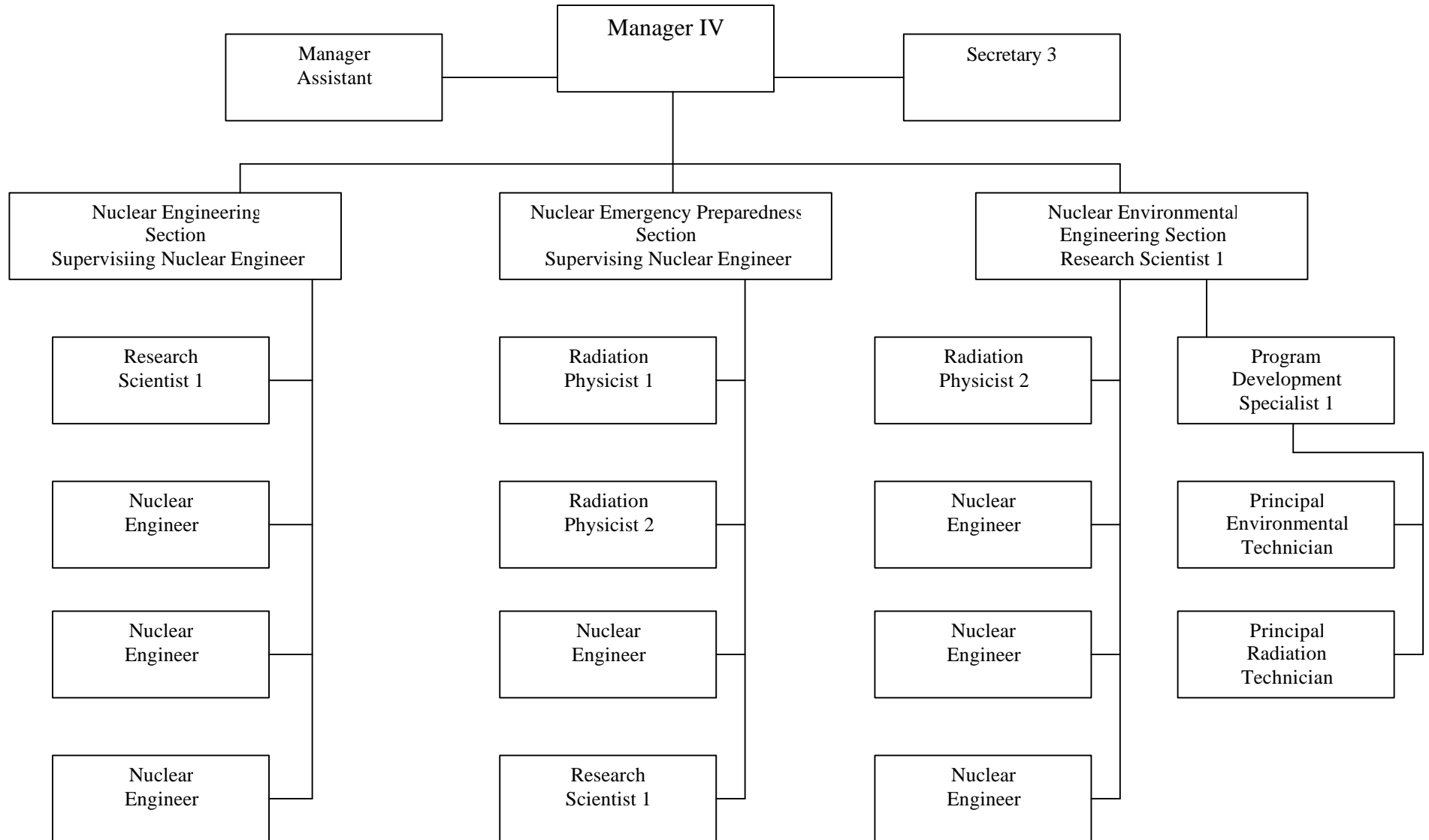
The State of New Jersey's Radiation Accident Response Act (N.J.S.A. 26:2D-37 et seq.) became effective October 27, 1981. This act provided for the establishment of procedures for implementing protective actions in the event of nuclear emergencies and for the preparation and implementation of a state radiation emergency response plan. The New Jersey Radiological Emergency Response Plan (RERP) for Nuclear Power Plants was developed as a joint effort by the New Jersey Department of Environmental Protection (DEP) and the New Jersey Division of State Police to coordinate and implement an immediate comprehensive state, county and municipal response to a radiological emergency at a nuclear power plant affecting the State of New Jersey. The RERP identifies the DEP as the lead state agency for accident assessment during a nuclear incident, protective action formulation and control of food, water and milk. The DEP is the support agency for evacuation, sheltering and access control, for personnel monitoring and record keeping and for decontamination.

The DEP's responsibilities are addressed on a daily basis by the Nuclear Emergency Preparedness Section (NEPS) of the Bureau of Nuclear Engineering (BNE). NEPS activities include attending to the logistics of nuclear emergency response, developing and implementing training for all nuclear emergency response participants, planning for and initiating nuclear emergency response during exercises and nuclear emergency events, maintaining response facilities and preparing procedures. Most importantly, the NEPS maintains a highly trained organization of staff from throughout the DEP ready to initiate, at a moment's notice, an all-encompassing response to any nuclear power plant emergency affecting New Jersey.

In addition to the NEPS, two other sections operate within the BNE. The Nuclear Engineering Section is responsible for licensing issues and nuclear safety review of plant operations. The Nuclear Environmental Engineering Section is responsible for radiological and environmental monitoring near the nuclear power plants in the state. Figure 1-1 is an organizational chart of the BNE.

**Figure 1**

# **Bureau of Nuclear Engineering**





## 1.2 Nuclear Power Plants Affecting the State of New Jersey

There are four nuclear power plants located in New Jersey (see Figure 1-2). The Oyster Creek Nuclear Generating Station (OCNGS) is a boiling water reactor located nine miles south of Toms River in the coastal Pine Barrens in Lacey Township, Ocean County. The plant is operated by AmerGen Corporation. It has been in commercial operation since December 1969, and operates at a power level of 650 megawatts electric (MWe), 1930 megawatts thermal (MWt).

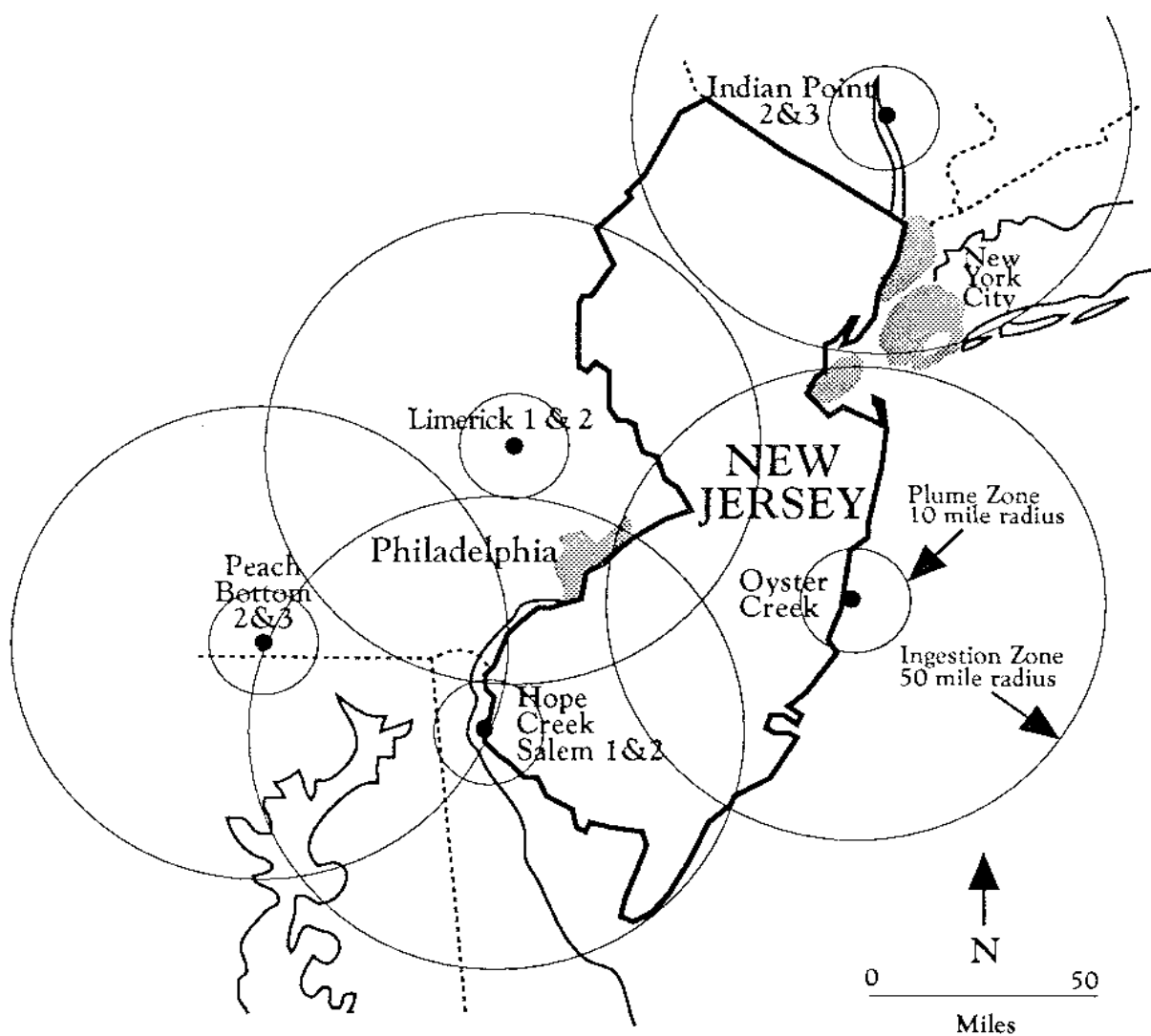
Public Service Enterprise Group (PSEG) operates three units at its Artificial Island (AI) site in Lower Alloways Creek Township, Salem County. Salem Units 1 and 2 are pressurized water reactors rated at 1090 MWe (3338 MWt) and 1115 MWe (3411 MWt), respectively. The Hope Creek unit is a boiling water reactor rated at 1067 MWe (3293 MWt). Salem Unit 1 has been in commercial operation since June 1977, and Salem Unit 2 has been operational since October 1981. The Hope Creek Unit was approved for commercial operation in February 1987.

New Jersey could also be affected by an accident at a plant in another state. States which have nuclear power plants within fifty miles of New Jersey state borders are Pennsylvania (Limerick Units 1 and 2, and Peach Bottom Units 2 and 3) and New York (Indian Point Units 2 and 3). See Figure 1-2.

## 1.3 Nuclear Emergency Planning Areas

For the purposes of nuclear emergency planning, two planning areas around nuclear power plants are specifically defined. The Emergency Planning Zone (EPZ) is the circular area around a nuclear power plant with a radius of ten miles. This is the area for which immediate protective actions for the public would be taken in the event of an accidental release of radioactive material. Initial state response for the EPZ may include evacuation, sheltering or access control. The response is intended to provide protection to the public from unnecessary exposure to radioactive noble gases (xenon and krypton), particulate and radioactive iodine from a radioactive plume which, in extreme cases, could be health threatening.

**Figure 1-2**  
**Nuclear Power Plants Affecting the State of New Jersey**



Small Circle: 10 Mile Emergency Planning Zone (EPZ)

Large Circle: 50 Mile Ingestion Pathway Zone (IPZ)

The second planning area is the Ingestion Pathway Zone (IPZ), described as the circular area with a radius of fifty miles around a nuclear power plant. Protective actions for the IPZ would be implemented on a long-term basis to prevent the ingestion of radioactive materials which may have been deposited on the ground by a radioactive plume. These protective actions may include embargo and condemnation of food and milk, evacuation, access control, hunting and fishing restrictions, shellfish consumption restrictions, restriction on public and private campgrounds and restriction on public bathing places.



Salem Unit 1, Salem Unit 2, and Hope Creek

## **2.0 NUCLEAR EMERGENCY RESPONSE**

### **2.1 Overview: Response to Nuclear Emergency Events**

Nuclear emergency response to any of the four nuclear power plants in New Jersey is initiated by the BNE Duty Roster Officer (see Section 2.4). The magnitude of the state's response is dictated by the severity of the incident. The methodology for the classification of emergency events at a fixed nuclear facility is outlined in Nuclear Management Resource Council (NUMARC), NESP-007, Revision 2, January 1992, "Methodology for Development of Emergency Action Levels". Nuclear power plants classify incidents in one of the following categories: Unusual Event (UE), Alert, Site Area Emergency (SAE) and General Emergency (GE). The UE classification describes occurrences at a nuclear power plant which indicate a potential for degradation of the level of safety of the plant. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs. An Alert describes events at a nuclear power plant which involve an actual or potential degradation of the level of safety of the plant. Any release of radioactive material is expected to be minimal. The SAE classification indicates that events have occurred which involve actual or likely major failures of plant functions needed for protection of the public. Any releases of radioactive material are expected to be limited to within the site boundary. A GE classification describes events which involve actual or imminent substantial reactor core degradation or melting with the potential for loss of containment integrity. Releases of radioactive material are expected to extend beyond the site boundary.

### **2.2 Nuclear Emergency Events in 2003**

Between January 1, 2003 and December 31, 2003, only one UE was declared at nuclear power plants in New Jersey (see Table 2-1). Figure 2-1 identifies the number of UEs declared at each nuclear generating station over the past fifteen years. No Alerts were declared during 2003. Only six Alerts have been declared in the state since 1983, the last occurring in 1995. There has never been a SAE or GE declared in New Jersey.

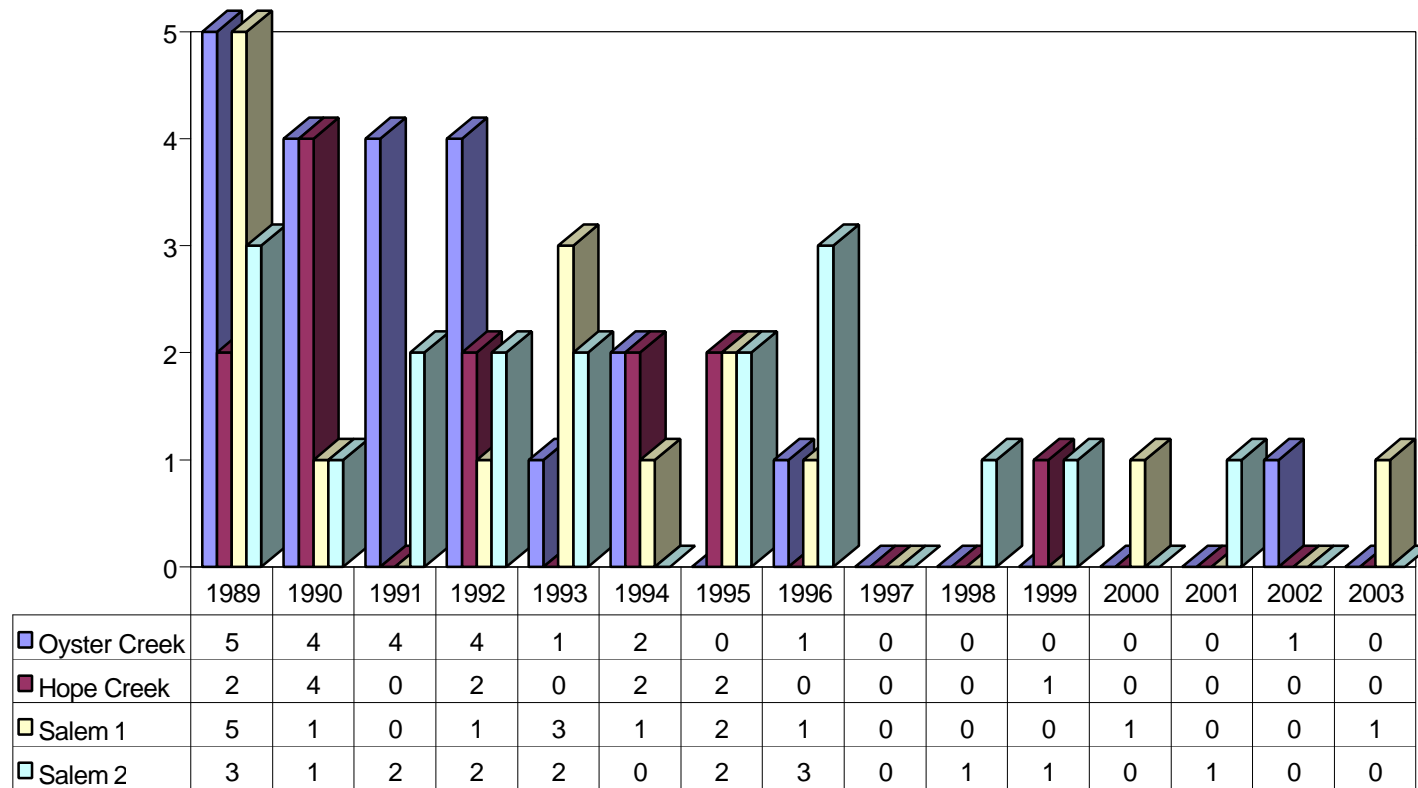
**TABLE 2-1**

**2003 EMERGENCY EVENT NOTIFICATIONS**

<u>Date</u>	<u>Plant</u>	<u>Classification</u>	<u>Initiating Condition</u>	<u>Response</u>
07/29/03	Salem Unit 1	Unusual Event	Offsite power supply to the 4kv vital buses was lost. The power to these buses was automatically transferred to the three on-site emergency diesel generators. Two of four group buses also de-energized. The reactor automatically tripped.	Monitored in accordance with procedures by the BNE.

Figure 2-1

# Unusual Events



■ Oyster Creek 
 ■ Hope Creek 
 ■ Salem 1 
 ■ Salem 2

### 2.3 Nuclear Emergency Responders

Nuclear emergency responders include personnel from the BNE, the Bureau of Environmental Radiation (BER), the Bureau of Radiological Health (BRH) and the Bureau of Communications and Support Services (BCSS). As of December 31, 2003, forty-eight staff level personnel were involved in nuclear emergency response with active support from management personnel in the Division of Environmental Safety and Health. Figure 2-2 provides a breakdown of nuclear emergency response support by organization. Additional field support is provided by Salem and Ocean County personnel, the Bureau of Emergency Response, the Water Supply Element, the Division of Fish, Game and Wildlife, the Division of Parks and Forestry and the Department of Health and Senior Services.

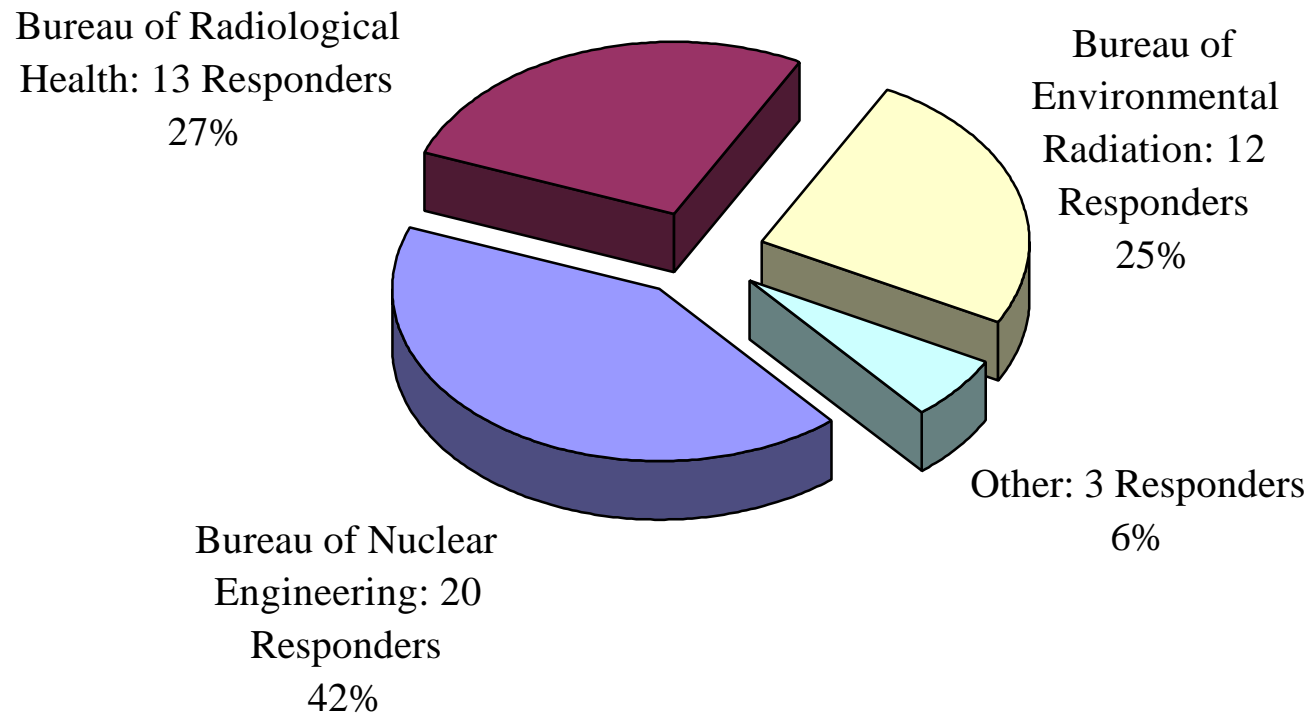
### 2.4 BNE Duty Roster

Nine of the 48 nuclear emergency responders have been chosen to staff the BNE Duty Roster. These responders are chosen based on their experience, knowledge of overall response activities and familiarity with nuclear power plant operations. Personnel on the BNE Duty Roster act as initial state contacts during a nuclear event. Two people are assigned on a weekly basis as primary and secondary contacts to provide continuous coverage (24 hours per day, 365 days per year) in the event of a nuclear incident.

For UEs, the BNE Duty Roster Officer provides continuous monitoring of the event until it ends. This involves obtaining engineering information from the control room of the affected nuclear power plant and updating DEP management and the New Jersey State Police. At the Alert level and above, in addition to monitoring the event, the BNE Duty Roster Officer initiates the call out of responders and the staffing of nuclear emergency response facilities.

**Figure 2-2**

## **NUCLEAR EMERGENCY RESPONDERS BY PROGRAM**





### **3.0 RADIOLOGICAL EMERGENCY PREPAREDNESS EXERCISES**

#### **3.1 State Requirements**

In order to ensure the health and safety of citizens during a nuclear event, the New Jersey Radiation Accident Response Act (N.J.S.A. 26:2D-43f) calls for testing of the New Jersey RERP. The Act specifically requires the "... testing and evaluation of all plans developed pursuant to this act upon their adoption, and annually thereafter, to assure that all personnel with emergency response duties and responsibilities effectively carry out their assigned tasks."

#### **3.2 Federal Requirements**

By presidential directive on December 7, 1979, the Federal Emergency Management Agency (FEMA) became the lead agency for all off-site nuclear power plant emergency planning and response. FEMA's responsibilities include review and evaluation of state and local nuclear emergency response plans, observation and evaluation of implementation of state and local plans and coordination of activities of other federal agencies that have radiological emergency planning responsibilities.

The adequacy of off-site nuclear emergency response is evaluated by FEMA through Radiological Emergency Preparedness (REP) exercises. Table 3-1 summarizes the 2003 exercises and the extent of play in which the NEPS participated. FEMA Graded EPZ exercises are required biennially at each site. IPZ exercises are required once every six years at each site. REP exercises are designed to test the capability of off-site organizations to protect public health and safety through the implementation of emergency response plans and procedures under simulated accident conditions.

During REP exercises, FEMA evaluators compare state performance with federal response objectives and provide a Standard Exercise Report Format (SERF) document detailing their observations. If exercise objectives are not met by state performance, FEMA classifies the performance inadequacy as one of the following: Deficiency, Area Requiring Corrective Action (ARCA), or Plan Issue. A deficiency is defined as "observed or identified inadequacies of organizational performance in an exercise that could cause a finding that off-site emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a nuclear power plant." Deficiencies must be corrected and re-evaluated by FEMA within 120 days. An ARCA is defined as an inadequacy in state response that, by itself, does not adversely impact public health and safety. ARCAs must be corrected in the next FEMA-observed exercise at that site. A Plan Issue is an observed or identified issue during an exercise which does not involve participant or

organizational performance, but rather involves inadequacies in an organization's existing plan or procedures. A Plan Issue should be corrected by no later than the next annual plan review and update. Figure 3-1 displays the number of ARCAs by year for Artificial Island and Oyster Creek.

In addition to FEMA-evaluated REP exercises, nuclear emergency responders participate in annual state exercises, quarterly utility exercises, utility exercises observed by the Nuclear Regulatory Commission (NRC), table-top drills and field drills. During these exercises and drills, some of the 10 nuclear emergency response facilities maintained by the NEPS are activated and staffed. In 2003, program personnel participated in five quarterly exercises, two FEMA evaluated exercises, and three other exercises. See Table 3-1 for a summary of exercises.



Radio Communications at the Woodstown FCP

**TABLE 3-1**  
**2003 EXERCISES AND EXTENT OF PLAY**

<u>Description</u>	<u>Date</u>	<u>EOF</u>	<u>EOC</u>	<u>ENC/JIC</u>	<u>FCP</u>	<u>FMT</u>
Salem Rehearsal	02/11/03	X	X	X	X	X
Salem State Evaluated	03/11/03	X	X	X	X	X
Oyster Creek Quarterly	04/30/02	X	*	X		
Salem Quarterly	05/28/03	X	*	X		
Oyster Creek Quarterly	07/30/03	X	*	X		
Oyster Creek Rehearsal	08/06/03	X	X	X	X	X
Hope Creek Quarterly	08/27/03	X	*	X		
Oyster Creek FEMA Plume	09/09/03	X	X	X	X	X
Oyster Creek FEMA IPZ	09/23/03	X	X	X	X	X
	09/25/03					
Salem Quarterly	11/04/03	X	*	X		

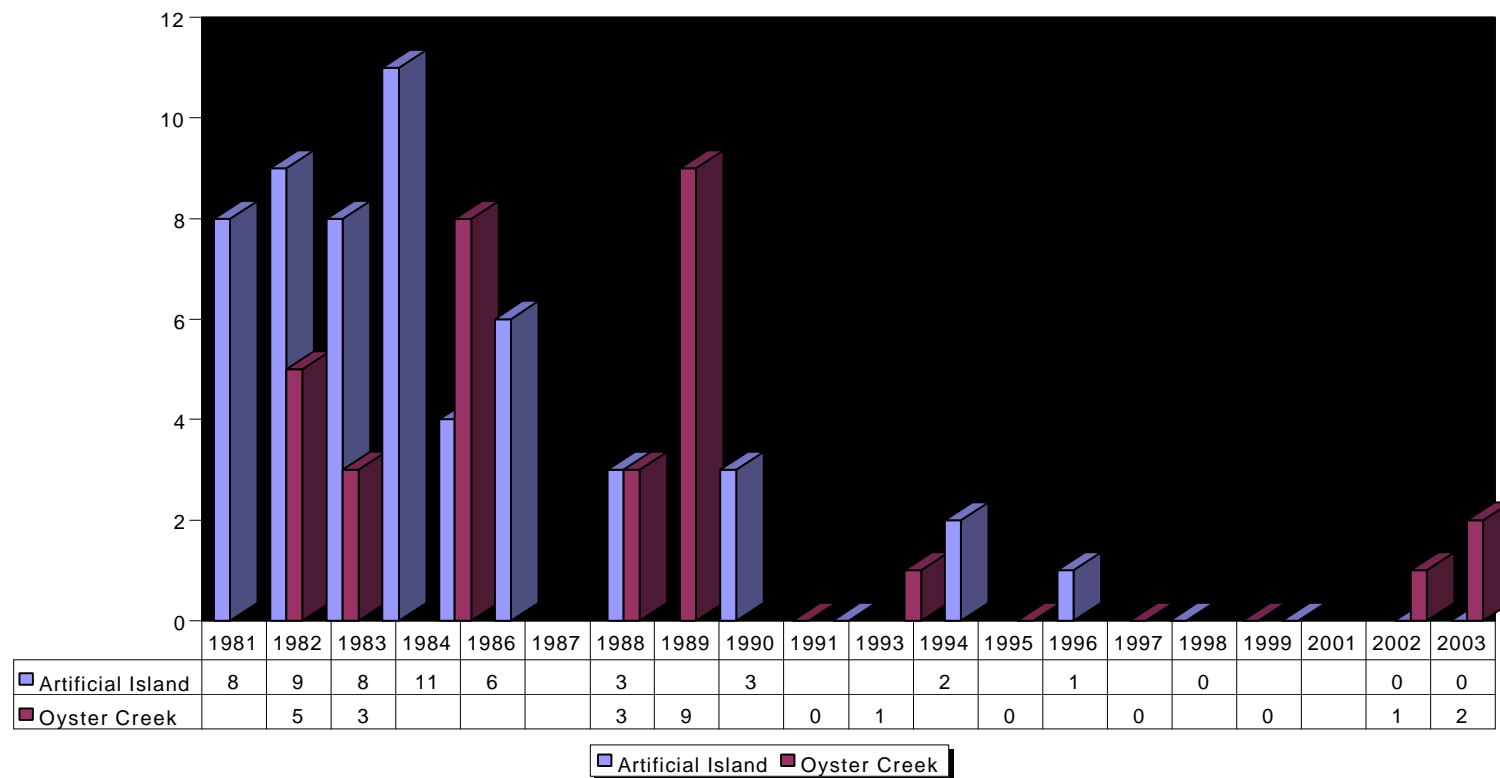
EOF: Emergency Operations Facility  
JIC: Joint Information Center  
X: Full staffing & participation

EOC: Emergency Operations Center  
FCP: Forward Command Post  
\* Partial Staffing

ENC: Emergency News Center  
FMT: Field Monitoring Teams

**Figure 3-1**

**BNE Exercise Performance  
Total ARCAs by Year, Artificial Island and Oyster Creek**



\* Because of the terrorist attacks on September 11, 2001, the FEMA evaluated exercise for Oyster Creek was postponed in 2001. Therefore, New Jersey participated in two FEMA evaluated exercises in 2002.

## **4.0 ACTIVITIES IN SUPPORT OF NUCLEAR EMERGENCY PLANNING**

### **4.1 State Evaluated Exercise at Salem**

In addition to the federal requirements mandating biennial exercises at each site, the New Jersey Radiological Emergency Response Plan requires state evaluated exercises during the alternate years. On Tuesday, March 11, 2003, emergency response personnel participated with the State Police Office of Emergency Management (SPOEM), Salem and Cumberland County Offices of Emergency Management, Delaware Emergency Management Agency (DEMA), and Public Service Enterprise Group (PSEG) in a state graded exercise at the Salem Nuclear Generating Station. All emergency facilities were activated during the evening exercise. Radiation Protection Programs staff activated the Emergency Operations Center (EOC), Emergency Operations Facility (EOF), Emergency News Center (ENC), Forward Command Post (FCP), and one state Field Monitoring Team (FMT). Trained dispatchers from the Salem County Communications Office staffed one county FMT

Engineering and dose assessment were conducted at the EOF in order to formulate protective action recommendations (PARs). DEP staff presented accident assessment data, meteorology information, and PARS to the Governor's designee at the state EOC. Protective action decisions (PADs) for the public were formulated at the state EOC after reviewing all information and department considerations. Accident information and PADS for the public were disseminated to the press at the ENC. Field monitoring teams provided the FCP with simulated real time data in order to characterize the extent of the radioactive plume.

Department of Environmental Protection staff acted as controllers and evaluators for each facility and field monitoring team. In addition, post exercise comments from facility leads were reviewed and included in the state evaluation. In accordance with FEMA's exercise evaluation methodology, each emergency facility and field team successfully met the criteria in each of the six evaluation areas. While some issues were observed and noted, all goal oriented exercise objectives were completed without impact. All identified issues were addressed and will be incorporated in future training sessions.

### **4.2 Federal Evaluated Plume and Ingestion Pathway Exercises**

The Federal Emergency Management Agency (FEMA) evaluates the radiological emergency response preparedness of state agencies and local communities through various exercises and drills. Radiological emergency preparedness guidance requires that FEMA evaluate programs in six major areas with 32 sub-elements in order to ensure compliance with specific criteria. All criteria must be evaluated at each site at least once every six years. Most of the exercise

criteria are evaluated every two years during the plume phase exercises at each site. In addition, radiological emergency response criteria are evaluated during an ingestion pathway exercise once during the six-year cycle.

In order to test radiological emergency response exercise objectives for both the plume and ingestion phases, separate and differing scenarios with specific evaluation criteria are required for each. Both exercise scenarios test emergency management; protective action decision-making and implementation; field measurement and analysis; support operations; and emergency notification and public information. In addition, the ingestion scenario tests planning efforts involving the identification of major exposure pathways from contaminated food and water and the associated control and interdiction of contamination. The ingestion pathway exposure control for the public could evolve into a long-term remediation effort where federal assistance would be used. Because of the differing nature of the exercises and the time involved to test each, separate scenarios were developed and the plume and ingestion phase exercises were conducted on separate dates.

The plume phase exercise was conducted on Tuesday, September 9, 2003 at the Oyster Creek Nuclear Generating Station in Ocean County. The Department of Environmental Protection (DEP) emergency response personnel participated with the State Police Office of Emergency Management (SPOEM), the Ocean County Office of Emergency Management, and AmerGen.

All emergency facilities were activated for the exercise. The Emergency Operations Facility (EOF) and the Joint Information Center (JIC) located in Jersey Central Power and Light's business office in Lakewood; the Forward Command Post (FCP) located next to the Ocean County Office of Emergency Management in Berkeley; two state and one county Field Monitoring Teams (FMT); and the Emergency Operations Center (EOC) located at State Police Headquarters in West Trenton were fully staffed. During the evening exercise, engineering assessment, dose assessment, and protective action recommendations were conducted at the EOF. Protective action decisions for the public were formulated at the EOC and public information was disseminated to the press at the JIC. Field monitoring teams provided the FCP with simulated real time data in order to characterize the extent of the radioactive plume.

The State of New Jersey was scheduled to hold the FEMA evaluated ingestion pathway phase of the exercise on September 23-25, 2003, but due to severe weather conditions, the schedule was changed. The exercise was to include participation from the US Department of Energy (DOE), US Nuclear Regulatory Commission (NRC), US Environmental Protection Agency (EPA), US Food and Drug Administration (FDA), and the DOE's Regional Assistance Program. The DOE also planned to dedicate resources to the state for Geographic Information System (GIS) mapping and planned to use their Aerial Monitoring System. The original exercise schedule included two days for the state to meet all the radiological emergency response criteria for the ingestion pathway. The third day was to be dedicated to

a full participation tabletop exercise on return and recovery operations designed to tests the DEP's Return/Recovery Matrix. The Return/Recovery Matrix was developed based on lessons learned from the 1998 Ingestion Pathway Exercise at the Salem/Hope Creek site in Salem County.

On September 23, 2003 at approximately 0815 a tornado touched down in Ewing Township affecting the DEP's Technical Assessment Center (TAC). Power losses, wind damage, and gas leaks in the area forced the evacuation of the facility prior to the start of the exercise. The NJ State Police Office of Emergency Management (SPOEM) activated their Emergency Operations Center (EOC) in response to weather related disasters around the state and started damage assessment. The weather related events prevented the EOC and the DEP's TAC from continuing with the exercise. Demonstrations scheduled for these facilities were cancelled for the day. Milk sampling scheduled for Jones Farm Corrections Facility was also cancelled due to the severe weather; however, environmental monitoring activities were demonstrated as scheduled in Ocean County. The FCP and FMTs successfully demonstrated the capability of the state to collect environmental samples and characterize the area of radioactive deposition.



Tornado Damage on Olden Avenue, Trenton

Radiological emergency planner's from the DEP and the SPOEM met with senior FEMA evaluators to discuss a contingency plan in order to continue with the remainder of the exercise. An agreement was reached to hold the exercise demonstration and evaluation at the Ocean County Office of Emergency Management using a tabletop format. The exercise was tentatively scheduled for September 25, 2003 starting at 0800 hours and continuing until 2000

hours. The agreement with FEMA was contingent upon retrieving vital equipment, computers, and displays from the BNE's TAC. The evaluation of the Emergency Laboratory Facility (ELF) and the milk sampling team were also rescheduled for September 25<sup>th</sup> contingent upon access to the BNE building. DEP management and state police coordinated a plan for limited re-entry to the TAC with local emergency management officials. On September 24<sup>th</sup>, exercise controllers and key staff entered the BNE building and loaded all the necessary equipment for the exercise. The equipment was transported to and set up at the Ocean County OEM, where the exercise continued as planned.

On September 25<sup>th</sup>, the state, local, and municipal government agencies successfully demonstrated ingestion pathway exercise objectives at the Ocean County OEM. The DEP staff demonstrated the ability to develop a strategic sampling plan to characterize the extent of the radiological contamination and the resulting impact on the environment and the population. The environmental sampling plan was designed to evaluate the impact of the radiological contamination on food, milk, and water. Protective action recommendations were developed at BNE's TAC to hold, embargo, or destroy food, milk, and water that exceeded the FDA guidelines. Other protective action recommendations were developed to relocate affected populations, return populations to areas deemed to be free of contamination, and allow re-entry of essential personnel to evacuated areas. State decision-makers from the State Police OEM, the DEP, and the State Department of Health and Human Services demonstrated the ability to assess the recommendations and make decisions regarding relocation, return and re-entry. State, county, and local agencies worked together to develop a strategy for the implementation of the protective action decisions. The SPOEM developed public safety press releases to inform the public of protective measures and actions. The BNE's milk sampling team successfully demonstrated the capability to sample raw milk for radioactive contamination. Samples were collected and processed for delivery to the laboratory for analysis. The ELF successfully demonstrated the capability to accept, log, process, and analyze environmental samples. Proper procedures were demonstrated to determine the presence of radioactive contamination in the samples. Sample analysis reports were generated in accordance with established guidelines. In addition, the field collection team successfully demonstrated radiation monitoring, emergency worker exposure control, and equipment decontamination procedures for the FEMA evaluators.

State representatives met with the FEMA evaluation team on September 12 and 26, 2003 to discuss the post plume and ingestion preliminary findings. No significant issues were identified during these meetings. Based upon the preliminary reports, FEMA indicated that the state adequately demonstrated the capability to protect the public during both the plume and the post plume phases of a nuclear power accident. On January 12, 2004, FEMA issued the Draft Exercise Report to the SPOEM and BNE. Two Areas Requiring Corrective Action (ARCA) were identified for the BNE. The first ARCA was identified at the EOC. Even though the EOC adequately demonstrated the ability to make protective action



recommendations and decisions, the FEMA evaluator thought the process could have been more timely. The second ARCA was identified at the EOF. The FEMA evaluator felt the EOF should have directed the FCP and subsequently the FMTS to gather more air sample data. Neither ARCA affected the ability of the state to protect public health and safety.

#### 4.3 Environmental Protection Agency Subcommittee

Mr. Patrick Mulligan, a member of the Bureau of Nuclear Engineering staff, participated on the Federal Radiation Protection Coordinating Committee (FRPCC) on July 5, 2003 in Washington, D.C. He acted as the liaison from the Conference of Radiation Control Program Directors E-6 committee. The FRPCC convened as a subcommittee of the Environmental Protection Agency (EPA) to edit, revise, and upgrade the EPA's guidance document titled, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents". The primary goal of the meeting was to finalize the edits to the chapter of the document addressing the Protective Action Guides (PAG) for water following a nuclear accident. Other agencies sending representatives were the Nuclear Regulatory Commission (NRC), Department of Agriculture (USDA), Center for Disease Control (CDC), Federal Emergency Management Agency (FEMA), and the Food and Drug Administration (FDA).

Prior to the meeting, Mr. Mulligan reviewed and commented on the EPA draft for the water PAG. At the meeting, the representatives debated the merits of the each member's comments and reached agreement regarding revisions to the water PAG. Mr. Mulligan and the subcommittee efforts should be released via the Federal Register in 2004.

#### 4.4 National Radiological Emergency Preparedness Conference

Mr. Patrick Mulligan attended the National Radiological Emergency Preparedness Conference held in Portland, Oregon from March 31 - April 3, 2003. The conference provided a national forum for dialogue and the sharing of information among offsite nuclear emergency response professionals. Mr. Mulligan had the opportunity to discuss nuclear emergency management, radiological health, and implementation of new federal guidance. He interacted with other state agencies and federal regulators on topics directly related to the daily activities of the Bureau of Nuclear Engineering (BNE). He attended numerous presentations and panel discussions concerning nuclear power plant security issues as a result of terrorism. He also attended discussions concerning the stockpiling and pre-distribution of potassium iodide for use by the general public. Along with the FDA, he participated in formulating potassium iodide dosing guidelines. The open forums provided state and local REP staff with an opportunity to share a wide variety of opinions and ideas.

## **5.0 TRAINING OF NUCLEAR EMERGENCY RESPONDERS**

### **5.1 Training Provided by NEPS Personnel**

In order to ensure that all responders are able to perform their assigned duties in a timely, knowledgeable and professional manner, the NEPS provides a wide range of training throughout the year. During 2003, NEPS implemented and supported the implementation of twenty training sessions. Table 5-1 summarizes all nuclear emergency response training provided during 2003.



Field Monitoring Team Instrument Check

### **5.2 Training Attended by NEPS Personnel**

In 2003, NEPS personnel attended training offered by the BNE, SPOEM, NRC, DOE, PSEG, and AmerGen. Table 5-2 summarizes training attended by NEPS personnel.

**TABLE 5-1**

**NUCLEAR EMERGENCY RESPONSE TRAINING PROVIDED BY NEPS**

<b><u>TRAINING</u></b>	<b><u>DATES</u></b>
Emergency Preparedness Overview	01/15/03
Salem County Field Monitoring Team (FMT)	01/21/03
Emergency Preparedness Overview	01/22/03
State Field Monitoring Team (FMT)	01/29/03
Forward Command Post (FCP)	01/29/03
Emergency Operations Facility (EOF)	02/05/03
RASCAL Dose Modeling	02/05/03
Train the Trainers (Ocean County)	03/14/03
Reception Center (Bridgeton HS)	04/08/03
Emergency Worker Decon Center (Seaside Heights FD)	04/22/03
Train the Trainers (Cumberland County)	04/24/03
Train the Trainers (Ocean County)	04/25/03
Emergency Worker Decon Center (Shiloh FD)	04/27/03
Emergency Worker Decon Center (Tri Boro FD)	04/29/03
Reception Center Mtg. (Ocean County)	05/01/03
Emergency Worker Decon Center (Shiloh FD)	05/04/03
Emergency Worker Decon Center (Tri Boro FD)	05/13/03
Reception Center (Woodstown HS)	06/02/03

**TABLE 5-1 (continued)**

**NUCLEAR EMERGENCY RESPONSE TRAINING PROVIDED BY NEPS**

<b><u>TRAINING</u></b>	<b><u>DATES</u></b>
Emergency Laboratory Facility Training	06/04/03
Train the Trainers (Ocean County)	06/06/03
Reception Center (Woodstown HS)	06/09/03
Reception Center (Pinelands HS)	06/24/03
Reception Center (Pinelands HS)	07/01/03
Reception Center (Pinelands HS)	07/08/03
Field Monitoring Team (Ingestion)	07/16/03
Field Monitoring Team (Oyster Creek)	07/25/03
Return/Recovery	07/29/03
Forward Command Post (FCP)	08/13/03
Field Monitoring Team (State)	08/13/03
Technical Assessment Center (TAC)	08/14/03
Technical Assessment Center (TAC)	08/21/03
Return/Recovery	09/16/03
Technical Assessment Center (TAC)	09/17/03
Emergency Worker Decontamination Center (Barnegate Light FD)	12/04/03
Train the Trainers (Cumberland County)	12/09/03

**TABLE 5-2****TRAINING ATTENDED BY NEPS PERSONNEL**

<b><u>TRAINING</u></b>	<b><u>DATES</u></b>	<b><u>PROVIDED BY</u></b>
Emergency Preparedness Overview	01/15/03	BNE/NEPS
Emergency Preparedness Overview	01/22/03	BNE/NEPS
Field Monitoring Team (FMT)	01/29/03	BNE/NEPS
Forward Command Post (FCP)	01/29/03	BNE/NEPS
Emergency Operations Center (EOC)	02/04/03	SPOEM
Emergency Operations Facility (EOF)	02/05/03	BNE/NEPS
RASCAL Modeling Training	02/05/03	BNE/NEPS
Joint Information Center (JIC)	04/16/03	AmerGen
Emergency Laboratory Facility (ELF)	06/04/03	BNE
Field Monitoring Team (Ingestion)	07/16/03	BNE/NEPS
NRC Outreach Training	07/23/03	NRC/DOE
Return/Recovery	07/29/03	BNE/NEPS
Field Monitoring Team (FMT)	08/13/03	BNE/NEPS
Forward Command Post (FCP)	08/13/03	BNE/NEPS
Technical Assessment Center (TAC)	08/14/03	BNE/NEPS
Joint Information Center (JIC)	08/18/03	AmerGen
Procedure Writing	09/27/03- 09/29/03	PSEG

**TABLE 5-2 (continued)**

**TRAINING ATTENDED BY NEPS PERSONNEL**

<b><u>TRAINING</u></b>	<b><u>DATES</u></b>	<b><u>PROVIDED BY</u></b>
Emergency Action Level (EAL)	12/08/03	PSEG
Emergency Action Level (EAL)	12/15/03	AmerGen



Field Monitoring Training at the Berkeley Forward Command Post

## **6.0 RADIOLOGICAL EMERGENCY RESPONSE PLAN PUBLIC HEARINGS**

The DEP, in cooperation with the New Jersey Division of State Police, is required by the New Jersey Radiation Accident Response Act (N.J.S.A. Title 26:2D-37 et seq.), to hold public hearings to take comment on and answer questions relevant to the New Jersey RERP for nuclear power plants. The purpose of the RERP is to coordinate and implement an immediate comprehensive state, county and municipal response to a radiological emergency at a nuclear power plant affecting the State of New Jersey. These public hearings are held annually in each of the three counties affected by the RERP; Ocean County for the OCNGS site and Salem and Cumberland counties for the AI site (Hope Creek and Salem Units 1 and 2).

The NEPS coordinated and presided over three public hearings in 2003: July 9 in Salem County, July 15 in Cumberland County and July 22 in Ocean County. Statements were made by representatives of the DEP, the SPOEM, and the Department of Health and Senior Services. Questions and comments from the public were addressed by the appropriate agency.

Copies of the transcripts for the three hearings are available for inspection by appointment at the offices of the Bureau of Nuclear Engineering.

### **How to Contact Us**

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